$$DX_4$$
 CX_2
 X_1B

in which,

A is a leaving group selected from the group consisting of -SR; where R is alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkenyl, substituted alkenyl, eycloalkyl, substituted cycloalkyl, aryl, substituted aryl, halogen; trichloroacetimidoyl; sulphoxide; and -O- alkenyl;

 X_1 , X_2 , and X_3 are independently selected from H, O, N, or N_3 , with the proviso that only one of X_1 , X_2 , and X_3 may be H, N or N_3 in any molecule;

X₄ is H, -CH₂O, -CH₂N, -CH₃, -CH₂N₃ or -COO-, with the proviso that X₄

may only be)H, -CH₂N, -CH₃ or CH₂N₃ when none of X₁ to X₃ is H; and

B, C, D and E are different, and are selected from protecting groups which can be cleaved orthogonally in any order, and in which,

B or C or D or E is absent if the corresponding X_1 to X_3 is H or N_3 , or if the corresponding X_4 is H, -CH₃ or -CH₂N₃.

13. A monosaccharide building block according to claim 12, which is a compound of General Formula III

$$D_1X_3 \xrightarrow{X_2C_1} A$$

III

in which,

 $A,\,X_1,\,X_2,\,X_3$ and X_4 are as defined for General Formulae I and II, and

 $B_1,\,C_1,\,D_1,$ and E_l are orthogonal carbohydrate protecting groups selected

from protecting group sets 1, 2, 6 and 8 as herein defined.

14.

A monosaccharide building block according to claim 12, which is a

compound of General Formula IV

$$E_2X_4$$
 D_2X_3
 D_2X_3
 D_2X_3
 D_2X_3
 D_2X_3
 D_2X_3
 D_2X_3
 D_2X_3
 D_2X_3

in which,

A, X_1 , X_2 , X_3 and X_4 are as unified.

B₂, C₂, D₂ and E₂ are selected from the members of protecting group set 1,7 (

set is not defined. and in themselves constitute an orthogonal set.

- A monosaccharide building block according to claim 14, in which 15. the members of protecting group set 1 are levanoyl, chloroacetate, pmethoxybenzyloxycarbonyl and 2-trimethylsilylethylcarbonate.
- A monosaccharide building block according to claim 12, which is a 16. compound of General Formula V

$$E_3X_4$$
 D_3X_3
 X_2C_3
 X_1B_3

in which,

A, X₁, X₂, X₃ and X₄ are as defined for General Formulae I and II, and B₃, C₃, D₃ and E₃ are an orthogonal set of protecting groups selected from

nongst the members of set 1 and from the remaining orthogonal sets.

17. A method of synthesis of a molecule selected from the group consisting of glycoconjugates of non-carbohydrate molecules, neo-glycoconjugates and oligosaccharides, comprising the step of using a monosaccharide building block according to claim 12.

- A method according to claim 17, in which the molecule comprises 18. one or more compounds in which substituents are linked to a pyranose or furanose ring.
- 19. A method according to claim 17, in which the molecule comprises a sugar analogue.